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ABSTRACT

This document contains three papers from a symposium on workplace issues that was conducted as part of a conference on human resource development (HRD). "Maximizing Opportunities for the Aging Workforce through Workplace Design" (Virginia W. Kupritz), reports on the second phase of study of the office design features needed to provide older workers with the same opportunities as their younger counterparts to perform their jobs efficiently. "Age and the University Workplace: A Case Study of Remaining, Retiring, or Returning Older Workers" (Tonette S. Rocco, David Stein) discusses how trends toward longer working life spans (including remaining in the workforce longer, retiring, and returning to the workforce) are compelling HRD practitioners to include age in diversity discussions and reexamine career development and training and development opportunities for older workers. "Access to Work for College Graduates with Disabilities in the Twin Cities Metropolitan Area" (Oscar A. Aliaga) examines the changes in organizational behavior and the role of HRD that are required to facilitate access to work for college graduates with various disabilities and explains how to implement accommodations as mandated by the Americans with Disabilities Act. All three papers contain substantial bibliographies. (MN)

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Workplace Issues

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Maximizing Opportunities for the Aging Workforce through Workplace Design

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This study further investigates the Kupritz findings (1999) that older and younger workers perceive similar types of design features as impacting work. The study utilizes the second phase of the Heuristic Elicitation Methodology (HEM), building upon the first phase of the HEM used in the earlier study. The first phase of the HEM is qualitative and the second phase is quantitative. Results from the present study indicate that even though older and younger workers generally associate similar design features with facilitating work activities, cohorts do not perceive similar weightings of importance for certain design features, especially those related to privacy. This suggests that design changes to the office may be necessary to provide older workers with the same opportunity as their younger counterparts to perform efficiently.

Keywords: Aging Workforce Perceptions, Workplace Design, Privacy

This study examines physical attributes of the office environment that accommodate older and younger American workers. The increasing age diversity in the workplace is a striking change in the American labor force. 76 million baby boomers, expected to live 30 or more years longer than their predecessors in 1900, face a social phenomenon unparalleled in history (Dychtwald & Flower, 1990). Demographic studies project that this aging population will play a significant role in the diversity of the American workforce (AARP, 1996; Brill, 1993; Hopkins, Nestleroth, & Bolick, 1991). Health professionals caution that design changes may need to be made to the workplace to support the physiological decline occurring in aging workers (Ashcraft, 1992; see also Robinson, Coberly & Paul, 1985). If design renovations and retrofits are deemed necessary to support the work practices of an older working population, corporations will need empirical data to guide them in allocating their finite resources to the design changes that produce the highest productivity. This study helps corporations target the most critical design areas that older and younger workers perceive as facilitating their performance. With the exception of Kupritz (1999), research examining the impact of a broad range of design features on older workers is especially uncommon; also research examining cohort perceptions is rare. The present study builds upon the research findings of Kupritz.

Kupritz discovered a system of cultural meanings that older and younger workers use to describe office features that facilitate and impede their work. The findings revealed that older and younger workers perceive similar types of design features to impact work. Aging workers do not appear to require different physical features or special design adaptions to facilitate job performance. This suggests that structural changes to the workplace may not be necessary to accommodate aging workers. As an inductive approach, these findings provide a beginning knowledge base about what cohorts think about physical features of the office and privacy, which surfaced as a major concern. The qualitative nature of this earlier study, however, did not allow Kupritz to measure the strength of relationships between physical features and work activities nor the relative importance given to office features by cohorts. This investigator believes that design differences may surface in other ways through quantitative measurement. The objectives of this study are to determine the strength of association that cohorts perceive between office design features and work activities performed and the relative importance given to office design and privacy features by cohorts.

Older and younger learners need a supportive work environment to help bridge the application gap between the training environment and the practical work environment. Trainees returning to a supportive work environment appear to demonstrate greater utilization of training skills (Baumgartel, Reynolds, & Pathan, 1984; Broad & Newstrom, 1992; Foxon, 1995; Richey, 1990, 1992; Rouiller, 1989). Research indicates that organizational climate, as part of organizational context, may be at least as important as learning in facilitating transfer (Richey, 1992; Rouiller, 1989; Russell, Terborg, & Powers, 1985). The physical setting is an integral part of that organizational context (Sundstrom, De Meuse, & Futrell, 1990). Human resource development (HRD) is in the business of improving performance. Training and development, therefore, should not take place in a vacuum for training sake; the dimensions of the larger system–the organizational context–must be taken into account when training is planned, developed and evaluated (Richey, 1992; Tannenbaum & Yuki, 1992). This means that prior to

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setting up the training program, emphasis should be placed on the organization itself, taking into account organizational issues that can impact the ultimate success or failure of the training intervention (Foxon, 1995) . This includes the physical surroundings of the workplace because it can impact worker performance. Environmental design research examining individual, group and organizational performance documents that office design can enhance or inhibit overall organizational effectiveness (Brill, Margulis, Konar, & BOSTI, 1984,1985; Davis, Becker, Duffy, & Sims, 1985; DeMarco & Lister, 1985; Springer, 1982; Vischer, 1996). Based upon experiences since his 1984, 1985 research, Brill (1993) proposes that providing a supportive physical environment can yield a productivity benefit equal to 2 to 5 percent annual salary in all job categories. HRD has paid minimal attention to the role that physical surroundings play in mitigating performance in organizations.

The aging population is a megatrend creating a diversified workforce not only in age and physiological makeup but also in work and life experiences. The American Association of Retired Persons (AARP) projects that the most rapid increase in population growth will occur between the years 2010 and 2030, when the "baby boom" generation reaches age 65 (1996). The median age of the workforce was approximately 35 years in 1980, 37 years in 1990, and is projected to be approximately 41 years in 2005 (Brill, 1993; see also Hopkins, Nestleroth, & Bolick, 1991). A large percentage of older workers will experience physiological changes sooner than their younger counterparts. Organizations have raised concerns about the physiological decline of the aging workforce for some time (Ashcraft, 1992; Fox, 1951; Robinson, 1983; Welford, 1976). Robinson, Coberly, and Paul (1985) reviewed a number of studies on occupational performance with age, concluding that "environmental conditions are important in mitigating the effects of decline in aging workers" (p. 519). Environmental conditions provide the physical context of workplace design. While the review's conclusion seems intuitively valid, Kupritz (1999) determined that older workers do not seem to need different physical features or special design adaptions to perform their job, even with the physiological changes occurring. The present study further investigates this phenomenon.

Research Methodology

120 administrators participated in the present study, 59 older workers (60 + years old) and 61 middle age workers (35-50 years old). All 120 office workers are paid and hold lead positions, with at least some supervisory responsibilities. Replicating the Kupritz (1999) study, general work responsibilities entail supervising and evaluating staff, using information technology, conducting meetings, working with clients, promoting the organizational mission, compiling reports, collaborating with coworkers, and reporting to higher management. The administrators work for service organizations in the same geographic area. They occupy a cubicle, an office with floor-to-ceiling solid walls, or a desk in an open area as their personal work space. Neither the Kupritz study nor the present study included ages 51-59 in the sample of older persons as the investigator believed that the sample cohort comparison of office features probably would be more pronounced by sampling a higher age group due to the physiological changes that occur with increasing age.

The present study utilized the second phase of the Heuristic Elicitation Methodology (HEM), building upon the first phase of the HEM used in the Kupritz (1999) study. The first phase of the HEM is qualitative and is designed to analyze complex issues by exhausting the range of respondent perceptions concerning the variables being examined.[1] The second phase of the HEM is quantitative and is designed to determine beliefs associated with the issues and to identify interrelationships among the issues. As a cognitive ethnographic method, the basic assumption of the HEM is that it is possible to match particular items and attributes with particular cultural values (Harding & Livesay, 1984). HEM stimulus materials are respondent-generated and data respondent-categorized rather than investigator-generated and investigator-categorized. This preserves the language and conceptualizations of respondents and decreases the likelihood of overlooking significant attributes of a domain being examined (Spradley, 1979; 1980). The methodology is predicated upon the idea that "language provides a powerful entry to cultural meaning structures" (Harding & Livesay, 1984, p. 75). The second phase of the HEM utilizes a structured questionnaire, consisting of a Beliefs Matrix and Preference Ranking. The questionnaire for the present study was designed based upon responses elicited during interviews conducted during the Kupritz study. Questionnaire categories reflected the language of the respondents, salient variables mentioned most frequently, and items of special interest to the investigator. Privacy regulating activities, described by the administrators during their interviews in the Kupritz study, were included in the work activities listed in the matrix as privacy surfaced as a major concern in the earlier study. It should be noted, also, that during the Kupritz interviews, the administrators discussed many of the design items listed in the matrix in relation to privacy activities. This is not surprising as most analyses consider privacy to be a relational characteristic, or attribute of a selected class of interpersonal situations (see Archea, 1977).

Beliefs Matrix. Each cohort compared 19 design features to 15 work activities arranged in a binary matrix. The respondents answered yes or no to the question, "Is X [design feature] important for/when Y [work activity]?" Past experience with the matrix indicates that data tend to stabilize with a sample size of about fifty (Kupritz, 1998; Nardi & Harding, 1978). Respondents took about 20 minutes to complete the matrix. Design items and work activities deemed less critical to the success of the study were placed toward the beginning and the end of the matrix in order to avoid possible problems with 'orientation' and 'fatigue' in respondent answers. It is unlikely, however, that 'fatigue' at least would be of much consequence in such a short time. Each respondent, upon completing the matrix, in effect answered 285 questions concerning his/her perceptions of what work activities are associated with each design feature. Table 1 displays a graphic summary of the measured association between design features and work activities for computed matrix cells, per cohort. The probability of association between design features and activities was calculated using the binomial distribution at the .01 level of significance. Z-scores were computed for matrix cells whose p value (sample proportion) was greater than the hypothesized P value (population proportion). Z-scores reached significance for particular design features and activities. Some are associated with privacy and others are not. Uses of the term "privacy" in work environments generally reflect the regulation of interaction, which encompasses retreat from incoming stimulation (generated by people and environmental stimuli) and information management, that is, outgoing information (Sundstrom, 1986).

Categories 3-8 and 12 listed in Table 1 are common meanings found in the privacy literature on work environments. (See Justa & Golan, 1977; Kupritz, 1998, 1999; Oldham, 1988; O'Neill, 1994; Sundstrom, Herbert, & Brown, 1982; Zalesny & Farace, 1987.) Categories being able to concentrate, minimizing interruptions, and minimizing noise and visual distractions are examples of attempts to regulate outgoing information; and evaluating people, written and verbal, encompasses both retreat and information management.

Preference ranking. 24 hours of interviewing older and middle age workers in the Kupritz (1999) study did not elicit office design or privacy differences between cohorts, even with the physiological changes occurring in older workers. In order to investigate this finding further, the relative importance of individual design features was measured through preference ranking. Each cohort ranked the 19 design features, listed in the Beliefs Matrix, in order of their importance to conduct work. This part of the questionnaire asked the question, "What are the most important design features for you to have at work in order to perform your job?" Respondents took about 10 minutes to complete the preference ranking. Table 2 positions the mean rank of each design item listed in the Beliefs Matrix, per cohort. Rankings per design item were summed across all respondents and divided by the number of respondents per subgroup. The lower the mean rank the closer the design item is to being ranked first, or most important. The rank order reflects not only each subgroup's most important design items but also those deemed least important to facilitate performance. The Levene's Test for the Equality of Equal Variances did not produce significant F scores. As sample data supported the assumption of homogeneous variances, T tests were computed, however, computations did not reach significance for any design items.

Findings

The Beliefs Matrix and Preference Ranking analyses taken together determined the strength of association between design features and general work activities, the relative importance given to design and privacy features for performing work and where privacy fits into what is important to older and younger workers in their office environments. **Theoretical consideration #1**-Older and younger workers, in general, appear to perceive similar strengths of association between design features and work activities. Z scores reached significance for similar design features and work activities overall for both older and younger workers. (See Table 1.) Relationships were

Table 1
Beliefs matrix questionnaire: Measured association between design features (X) and work activities (Y)

particularly strong for cohorts and clustered together regarding the design features 'having a work space with floor-to-ceiling solid walls, a door, minimal traffic routed through my area, my work space located away from the main traffic flow' and the general work activities, having little meetings, concentrating, talking privately on the phone and in person, minimizing interruptions, and minimizing noise and visual distractions, and performing individual work. At another level of analysis, many of these activities relate to privacy issues as described earlier. **Theoretical consideration #2-** Older and younger workers perceive similar weightings of importance for some design features needed to perform work, but not for others. Cohorts ranked 10 out of 19 design features the same or within one or two positions of each other. (See Table 2.) For example, 'having a larger personal office' was ranked 1st in importance by both older and younger workers to perform their work, 'having adequate storage' was ranked 4th in importance by both subgroups, and 'having adequate lighting' was ranked 6th in importance by older workers and 7th by younger workers. Particularly strong relationships for cohorts clustered together regarding certain work activities and design features when compared individually in the Beliefs Matrix. However, cohorts do not consider these design features necessarily as the most important workplace design characteristics when

Table 2
Mean rank for design items

OLDER WORKERS		YOUNGER WORKERS	
Design Item	**Mean Rank**	**Design Item**	**Mean Rank**
having a larger personal office	6.695	having a larger personal office	6.394
having up-to-date information technology (e.g., computer equipment and phone lines)	8.153	having an adequate work surface to spread out my work	7.623
having a work space with floor-to-ceiling solid walls	8.881	having adequate office equipment, reference materials and supplies	8.443
having adequate storage	8.898	having adequate storage	8.459
having an adequate work surface to spread out my work	8.932	having up-to-date information technology (e.g., computer equipment and phone lines)	8.885
having adequate lighting	9.542	having a flexible work space where my furniture and equipment can be rearranged to fit my work needs	9.197
having a flexible work space where my furniture and equipment can be rearranged to fit my work needs	9.661	having adequate lighting	9.213
having adequate office equipment, reference materials and supplies	9.881	having a work space with floor-to-ceiling solid walls	9.410
having a door	10.424	having my work space located away from the main traffic flow	10.262
having my work space located away from the main traffic flow	10.509	having room to personalize my office with pictures and mementos	10.689
having minimal traffic routed through my area	10.542	having a work space with 5'-0" H partitions	10.787
having a conference room available when needed	10.593	having a conference room available when needed	10.836
having a window	10.610	having coworkers who work together located close together	10.984
having a work space with 5'-0" H partitions	10.763	having a window	11.016
having room to personalize my office with pictures and mementos	10.881	having a door	11.115
having a conference room located near my office	11.034	having a conference room located near my office	11.148
having coworkers who work together located close together	11.051	having a work space with 7'-0" H partitions	11.164
having easy access to general office equipment, reference materials and supplies	11.220	having minimal traffic routed through my area	11.672
having a work space with 7'-0" H partitions	11.559	having easy access to general office equipment, reference materials and supplies	11.934

prioritized with other design items. On the other hand, cohorts did consider some design features that reached significance for certain work activities as some of the most important features needed to perform work. For example, 'having a work space with floor-to-ceiling solid walls' was ranked 3rd in importance by older workers and 8th by younger workers and 'having an adequate work surface to spread out my work' was ranked 5th in importance by older workers and 2nd by younger workers. **Theorectical consideration #3-** First, older and younger workers generally appear to perceive design features needed to perform basic job functions as most important to have at work, followed by certain design features associated with privacy activities. For example, 'having a larger personal office' was ranked by both subgroups as 1st in importance and 'having up-to-date information technology' was ranked 2nd in importance by older workers and 5th by younger workers. Cohorts connect some privacy activities with these design features. Younger workers associate 'having a larger personal office' with talking privately in

person and 'having up-to-date information technology' with talking privately on the phone. Older workers rank 'having a work space with floor-to-ceiling solid walls' as 3rd in importance and associate this design feature with many privacy activities described earlier. 'Having a flexible work space where my furniture and equipment can be rearranged to fit my work needs' is ranked 7th in importance by older workers and 6th by younger workers who associate this feature with the privacy activities, concentrating and minimizing interruptions and visual distractions. 'Having adequate lighting' is ranked 6th in importance by older workers and 7th by younger workers. Both subgroups associate this feature with concentrating. Younger workers also associate this item with minimizing visual distractions. Second, older and younger workers appear to prefer different architectural privacy features to facilitate work. Architectural privacy refers to the visual and acoustical isolation supplied by the physical surroundings of an environment (Sundstrom, Burt, & Kamp, 1980). Cohorts generally perceived different types of design features associated with privacy as important for performing work. 'Having a larger personal office' was ranked 1st as most important by both cohorts to perform their work, however, only younger workers associated this design item with the privacy activity, talking privately in person. Even though relationships were particularly strong and clustered together for certain design features and privacy activities listed in the Beliefs Matrix, cohorts typically did not give similar weightings of importance. For example, cohorts strongly associated 'having a work space with floor-to-ceiling solid walls' with concentrating, talking privately on the phone and in person, minimizing interruptions, and minimizing noise and visual distractions yet this design feature was ranked 3 rd in importance by older workers and 8th by younger workers. For the most part, even design features ranked less important by cohorts but related to privacy were not given similar weightings. Three exceptions were noted where cohorts gave similar weightings of importance (within one position of each other) for design features associated with privacy: 'having adequate lighting', 'having a flexible work space where my furniture and equipment can be rearranged to fit my work needs', and 'having my work space located away from the main traffic flow.'

Summary

The present findings indicate that cohorts prioritize certain design and architectural privacy features differently, even though older and younger workers generally associate similar design features with facilitating work activities. Older workers appear to need different physical features depending upon the design item (especially architectural privacy features). The findings suggest that design changes to the office may be necessary to provide older workers with the same opportunity as their younger counterparts to perform efficiently. This does not warrant heavy expenditures so long as Corporations initiate careful planning and foresight to provide compatible design needs. On the downside, if these needs are not met productivity may suffer. Many of the design needs of older workers can be accommodated by replacing certain rigid design features with more flexible features that allow workers themselves to manipulate physical elements of their workspaces when needed (e.g., providing a workspace where furniture and equipment can be rearranged to fit the worker's needs). Organizations should provide flexible environments that allow worker flexibility and control over their work environments. Flexible environments charge a low adaptive cost because workers can manipulate the physical setting to suit their own behaviors and particular work processes at that time. O'Neal and Carayon (1993) determined that individual and group control over the work environment can enhance employees' satisfaction with the environment and reduce stress. HRD professionals--who best understand how older and younger workers learn and practice new ways of working--can be teamed with design professionals to create work environments most conducive to work practices. Companies such as Hewlett-Packard and Owens Corning have teamed human resource professionals with design professionals to create work environments conducive to work practices. Jakabuwoski, a workplace strategist at Hewlett-Packard, explains the company's strategy: "When most organizations are designing office spaces, they need to consider their employees— their human resources— and the way those individuals do their jobs; and that means HR professionals are, or should be, included in the office redesign teams from the outset as a matter of successful business strategy" (Bencivenga, 1998, p. 69).

Providing a mix of work settings that are available to older and younger workers when needed further creates diverse environments that accommodate design differences as well as similarities. HRD professionals can work in concert with organizations to schedule space-time use of offices that support work practices of older and younger workers. This structuring of activities in space and time results in a mix of settings that individuals and groups experience each day: places for individual or group privacy; communication; team interaction; research and computer work; teleconferencing, etc. (Haworth, 1995; see also Brill, 1993). HRD professionals also can provide training tools on office protocols that support privacy needs for acceptable conversation levels in work areas and acceptable conversation and density levels in incidental meeting areas where colleagues are concentrating, cubicle

etiquette (e.g., how loudly a person should talk on the phone), how to deal with interruptions, etc. Bencivenga (1998) urges human resource professionals to train employees on appropriate ways to work in today's work environments and to help employees establish rules or protocols for the workplace. This kind of training program empowers individuals and work groups by enabling them to modify their own social norms to manage privacy better in today's work environments. Corporations face complex decision-making as they attempt to accommodate workers with diverse design needs. The present study enhances their ability to target the most critical design areas that facilitate performance for older and younger workers. Recognizing cohort design similarities and differences alerts and directs HRD professionals and organizations to where they should channel their finite resources to facilitate work practices when training is planned, developed and evaluated. As stressed in the introduction, the physical surroundings of the workplace--as an integral part of organizational context--can impact the ultimate success or failure of a training intervention. Organizations can use this information to assess cost benefits and to evaluate alternative design solutions to support new ways of working back on-the-job. This potentially can prove cost effective to organizations as they strive to support workforce diversity.

Footnotes

1. The Kupritz (1999) study did not examine the symbolic value that workers attach to workplace design for status recognition, etc. as this was not the purpose of the study. The study specifically targeted physical attributes that impact worker efficiency; 24 hours of interviewing never elicited symbolic values of design as impacting work.

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Age and the University Workplace: A Case Study of Remaining, Retiring, or Returning Older Workers

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Trends toward longer working lifespans, include patterns of remaining, retiring, and returning. HRD practitioners need to include age in diversity discussions and re-examine career development and training and development opportunities. A framework was developed for considering aging issues from an HRD perspective using case study.

Keywords: Older Workers, Life Long Working, HRD Policy

Incentives for early retirement, increasing demands for workforce productivity, and a projected shortage of skilled and experienced workers are powerful societal forces shaping human resource management and development practices in the workplace. Demographics are creating a workplace in which the traditional notions of retirement may be replaced with another concept--life long working--working in various positions for varying amounts of time throughout adult life. In the next decade, workers over the age of 55 may exceed the number of new entrants into the workplace. Hale (1990) predicts that by the year 2000 the average age of the worker will be 40 years old as compared to 34 years old in 1980. A declining birthrate might result in a shortage of skilled and knowledgeable employees (Dychtwald, 1990) making the notion of retirement for older workers a serious drain on organizational resources. While early retirement incentives have contributed to the decline of expertise in the workplace, inflation, increasing health care costs, and inadequate pensions are propelling older adults to remain or re-enter the workforce past the traditional retirement age (Doering, 1990; Herz, 1995).

While some human resource development literature investigates the effects of workplace programs on new employees (Holton, 1996) and women (Wentling, 1996; Taylor-Carter, 1996), little attention is focused on the older adult in the work setting. Two decades ago, Sheppard and Rix (1977) forecast the changing nature of the workplace and suggested that keeping older persons in the workforce would make sound economic and social policy sense. As the workforce ages, the future imagined by Sheppard and Rix is becoming a matter of importance to HRD practitioners and scholars. In what ways can HRD create working environments supportive of the needs and capabilities of older workers? What are the needs and concerns expressed by older workers? In this paper we will present an HRD policy framework suggesting ways to create a workplace supportive of older workers.

While continued employment of older workers is socially and economically beneficial, the workplace is age sizing: a readjustment in the median age of the workplace to permit the flow of new ideas, promotion opportunities, and innovation (Lavelle, 1997). Aging myths persist that continued employment of older workers blocks career growth, lowers productivity, and stifles innovation. While human resource professionals value older workers for experience, stability, judgment, and work ethic, executive officers believe that older workers are not flexible, are critical of non-traditional work arrangements, and are not technologically competent (Hochstein, 1995). According to Lewis (1996) early retirement incentives are tools for hiring employees who may be more current and whose energy level may be higher than that of aging workers. This is based on two assumptions that older workers: (a) do not keep up with knowledge in their fields, and (b) do not have the physical or mental stamina to remain productive. H. Deets, Executive Director of the AARP, addressing human resource professionals, pointed out a bias toward hiring and retaining older workers, "You dont hire too many people after 45; you dont train too many people after 50; and if you have a downsizing, anyone over 55 is on the way out" (Deets, 1995). The California Supreme Court offered a ruling permitting companies to age size for economic reasons. The California Court of Appeals also ruled that age discrimination laws were not intended to harm organizations financially (San Gabriel Valley Tribune, 1997).

Age is notably absent from the discourse on diversity issues in the workplace for example a chapter entitled, "Diversity Issues in the Workplace," omits age from the discussion of organizational diversity issues,

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> No longer are comments, jokes, or negative behaviors based on someone's race or ethnicity, gender, religion, sexual orientation, or physical ability acceptable in the workplace. Smart organizations are not only making it clear but they are also providing opportunities to gain new skills in dealing with employees' diversity. (Kendall, 1995, p. 79)

Research Design

The embedded single-case design was used to explore the proposition that changing demographics means that workforce policy may have to change to encourage older workers to remain or return to the workforce. According to Yin, "the method of generalization is 'analytic generalization,' in which a previously developed theory is used as a template with which to compare the empirical results of the case study" (1994, p. 31). A large university provides a critical case illustrating the "contemporary phenomenon" of employment patterns of older workers in its "real-life context," (Yin, 1994, p. 13). The research question was: How is the university adjusting to the changes in the labor force? Two subsidiary questions were (a) Are there indicators that employees over age 55 are remaining or returning to the university labor force? and (b) What is the subjective experience of being an older worker in a university environment?

Data Collection and Data Analysis

Descriptive statistics were collected from the university to provide information on the numbers of older workers in each job classification past the age of 55. Documents were collected on all policies and procedures. Structured interviews were conducted at the respondents' work sites either in an office or a conference room and lasted between 45 and 120 minutes to provide insights into the effects of the policies on older workers' lives. Interview questions covered: current work situation, career patterns, career development opportunities, and perceptions of career patterns. The questions asked were: How do you define career? How many careers have you had? Why are you working? What is your attitude about retirement?

Snowball sampling (Patton, 1990) was used to find respondents who were currently employed and at least 55 because retirement eligibility begins then for most Midwestern University employees (OHR, 1999). We asked acquaintances who were longtime employees for suggestions. The case illustrates the experience of being an older worker in a specific context from different job classifications. Twelve respondents, six men and six women between the ages of 55 and 68, participated. The embedded units (Yin, 1994) of analysis were faculty, administrative, and civil service classifications (CCS). One of the five faculty members was a woman, one of the three administrators was a woman, and all four of the CCS employees were women. One CCS employee was Filipino; all other participants were European American. Within the categories of faculty and administration, four were full-time employees, while the others were retirees who had accepted anywhere from a 10% to 50% appointment. One faculty member from this group also held another part-time position outside the university.

Interview transcripts were read and checked against the tapes, read again with preliminary themes recorded and grouped by job classification. The themes of remaining, retiring, and returning appeared as patterns from a comparison of the chart and relationship outline, the discussions, and additional readings. Doering (1990) suggested these themes in his analysis of employment trends among older workers.

Emergent Themes

Our focus is not on the status of the respondents but on the comments they made relevant to each concept. The data suggest that older workers are in the workplace past the traditional age of retirement choosing to remain, retire, or return creating different patterns than retirement as the traditional permanent separation from work. A remaining worker meets the retirement qualifications of age and years of service but has chosen to continue working in a full or part-time capacity without a break in service. A returning worker has ended active paid work, experienced a period of retirement, and returned to a paid position. A retiring worker meets the age and service requirements electing to leave current work with no intention of returning.

Remaining

There was a marked difference between the responses given by classified civil service workers and those from faculty and administrators, especially regarding the financial considerations of retirement, the perceived value their work, and the university's response to a work force that is aging.

None of the respondents felt discriminated against with respect to their age. Three respondents (faculty) noted the uniqueness of the setting. Brad stated that "in a university setting, I suspect that in many cases the work of older workers is viewed in a very positive light" because in higher education "their expertise continues to be valued." Maggie felt that the institution's priorities were different from her own,

> I love working with students -I really enjoy that. I'm angry about the fact that doesn't seem to be rewarded here as much as doing research, which I also enjoy. But I don't think anymore, I enjoy it as much as my interactions with students. And whether that's a side effect of the aging process which of course I don't like to think is true or a side effect of having had my surgery and its taken a lot of my self confidence away. I'm not sure. I don't know whether that's a common pattern among us old farts or [not].

Jodi, (administrator, and faculty) agreed that what others think of older workers "depends on where you're an older worker." She continued, saying "we have lost through retirement; we have lost people who still had a great deal to contribute." Jodi, who was engaged in a casual job search, mentioned one consideration would be the number of productive years remaining. Eddie, a professor, learned that his wife, a high school teacher felt that "older teachers are not given the same status as younger teachers. Older teachers are looked at in terms of people who are going to leave the system and, therefore, don't get as much recognition or support as and regard from their colleagues as the younger people do." While, "I don't see that in terms of the university."

Classified Civil Service workers remained in the workforce "So I can eat and live. Does that make sense to you?" (Karen). Civil service workers did not make enough money to be comfortable with the idea of retirement. Karen explained,

> [Retire] Not yet, I could but it wouldn't be a very good retirement pay. So I'll work another one or two, anyhow it'll help out. Plus I have credit I'll buy back when I worked downtown for the state and I can buy some time back. That'll give me a better retirement.

May admitted to not planning wisely, and Muffy complained pay increases did not cover the increase in necessary deductions such as parking and medical. From a different perspective, administrator Bobby said that his financial planning was done leaving the details of the "career shift" of retirement. Bobby hadn't decided how to spend the majority of his time in productive "work,"

> If somebody paid me the same salary to do nothing and don't go to work just stay at home just don't do anything, I would create work… something that was progressively satisfying, it would be a value added, return something, you know, to the society.

Amanda (CCS) said "people are living longer, and they're working longer… a few years ago an older person retired practically at 60, and that's it, or mothers always stayed at home" and if they did choose to go to work "some was necessary and some, they went to work to go to work to be doing something." The idea of no longer being productive was unacceptable to many of our participants. Civil service participants saw retirement as allowing more time for personal interests such as family, travel, reading, or other hobbies. Faculty perceived retirement as a "continuation" of professional endeavors and contributions to the field.

The gratification individuals received from their work, the appreciation of colleagues, their health, and their financial situation influenced remaining in the workforce, or a simple work ethic as Jodi said, "Why am I working? I couldn't not work". Remaining workers want financial planning assistance in preparation for reduced income, respect for their contributions, and to have meaningful work.

Retiring

Eddie (faculty) admitted, "retirement to me does not mean leaving my profession. [It means] freedom—release from systematic and routine obligations." Ryan echoed that sentiment, "I don't like to use the word retirement; I like to say career change." He elaborated, "I believe we should be continually doing something whether it's paid work, volunteer work, just keeping active doing things… " When interviewed he was an instructor (third career) having received his doctorate months before. He pursued his doctorate after retiring from twenty years in the Air Force (first career), and another twenty years teaching high school (second career). Maggy

admitted that upon retirement she would miss the social and intellectual interaction with students. For Jake, "retirement isn't a clear concept... it's just a matter of where your checks come from." Jodi also saw retirement as a continuation of her current professional endeavors. Bobby reflected "I'm still trying to face up to what I want to do" as he considered retirement. Finally, Fred's career was an integral part of his life "I've always felt that as I worked I was living, and that I— my life wasn't separate from my work."

Discussion of early retirement buy-outs among older university employees revealed a number of motives for leaving the university including job dissatisfaction, the desire for change, or a new phase of life. The financial impetus behind the early retirement incentive was obvious to all of our participants believing it was done to cut costs without consideration of efficiency and productivity. As Maggy said "On the one hand that's good because maybe that means you can institute a lot of change that you couldn't have if they stayed." Earlier she was excited about changing her approach to teaching to meet the challenges posed by a new generation of students. Maggy observed, "I think some people think that older workers are a real jewel to be prized because they know so much about the field of education say, about the local context and the community, about the bureaucracy here."

Eliminating those "jewels" from the institution produced a loss of collective institutional history. Eddie believed the university was being irresponsible by "enticing older professors to retire" to "free up positions," and yet he anticipated his own retirement would provide him more opportunities to make valuable contributions. Staff were not included in the retirement buyout because of a shortage of experienced support staff. As Karen observed,

> Then what President . . . says now is that they don't want to get rid of any of their A&P or civil service cause they're kind of short on it anyway. So they're not going to do any buyouts for them. And they don't want everybody in that's inexperienced either. So it makes sense economically, but it seems they've been unfair when they offer this retirement buyout to this group and not to these two groups.

Karen explained "their policy here is rather discriminating. They have done buyouts for retirement for faculty and they won't do it for A&P or civil service staff anymore." She suggested that money would be saved on health care benefits by offering staff the retirement option because staff are more frequently in need of medical care.

Staff commented on another disparity in the system-- that CCS employees once retired couldn't be rehired. This is in direct contrast to the policy for faculty and administration, who can be rehired. Jake returning to work,

> [Thought] that some of the policies--the reemployment of people who retired--are punitive. You know the college has policies whereby they'll set a salary, but it's based on a reduction from what your retirement salary was. They start with 80% of what your retirement salary was and that's the new base they figure from, and then employ [you at] some percent of that. I work now for 40% of 80% of what my salary was last year. Which isn't very much, but, you know, I'm not doing it for the money and when you add the retirement benefit it's almost as much money as it was in terms of salary. But that's still a negative kind of message that comes from those sort of calculations.

Early retirement incentives draw older workers from the workforce at ages younger than the traditional retirement age. If the trend continues, by the year 2000, the average retirement age will be approximately fifty-nine, an age at which most adults could enjoy another fifteen to twenty five years of productive employment (Hale, 1990). Rix (1990) concluded that many adults continue to work at peak efficiency, with more variation within age groups than between age groups. Shea (1991) indicated that "age-related changes in physical ability, cognitive performance, and personality have little effect on workers' output except in the most physically demanding tasks" (p. 153). Among faculty in the sciences, age had a slight negative relationship to publishing productivity (Levin & Stephan, 1989). Some studies have shown a stronger negative relationship between age and work performance for non-professional and low-level clerical jobs than for higher level craft, service, and professional jobs (Avolio, Waldman, & McDaniel, 1990; Waldman & Avolio, 1993).

With an anticipated shortage of new entrants to the workforce by the year 2020 (Sheppard & Rix, 1977), corporations will need to assess the consequences to profits and productivity of encouraging talented elders to exit the workforce. Society needs to recognize all of the costs of supporting a non-working population capable of productive work, living healthier and longer lives. Respondents perceived inequities in retirement plans based on job classifications, wanted realistic previews of retirement, and skill enhancement in preparation for new opportunities.

Returning

Older adults are finding employment at the university as a second career or as a bridge job, a position between periods of retirement (Doering, 1990). Older adults as new hires is an extremely low percentage, this may become a trend as baby boomers enter the retirement eligible age. Many older workers want to continue working in some capacity after retirement to supplement income, for greater health insurance coverage, or to be a productive and a contributing member of society. Fred echoed the sentiments of other faculty and administrative respondents by observing, "in the education profession often you move from one challenge to a more demanding one that's the way you move up in the career" is ending one career through retirement. Staff respondents could not afford to retire or live on their salaries. Muffy complained, "when I'm working overtime here, it's costing me money, because I work a part-time job." None of the staff we spoke to had retired from one job or career to embark on another one.

Faculty and administrative contributions were perceived by the participants as more highly valued than those of civil service employees who were not offered early retirement buy-outs. Civil Service workers lacked the opportunity to retire and return in a complimentary capacity.

The university's response to older workers returning or remaining has been haphazard at best. Policies clarified the status of the "returning from retirement" worker and have provided additional benefits for older workers who remain as a by-product of meeting the needs of other groups redefining policies to accommodate a changing workforce (Fisher, 1993; Dellman-Jenkins, Bennett & Brahce, 1994). Faculty retiring under early retirement programs may 1) teach a course until a replacement is available or where there is a lack of competent instructors, 2) complete an externally funded program, or 3) continue research on a part time basis. The maximum level of re-employment is .50 FTE with limited benefits, and a negotiated salary that need not be based on prior earnings (Stoffel, March 18,1992, Recent Changes in Retiree Re-Employment Policy and Definition of Immediate Family for Sick Leave Policy). A 1996 change increased the number of work scheduling options to include: reduced appointments permitting flexibility during non-peak work periods, reduced time, providing a temporary reduction in hours in conjunction with a corresponding reduction in salary (Office of Human Resources Policy and Procedure Manual, Feb. 1,1996, #6.10).

Overall, university policies do not seem to be age biased. In fact, several respondents explained that certain policies changed over the years to be more accommodating such as the procedures for procuring disability parking stickers and regular parking stickers. One respondent was unhappy her raises did not cover her increasing health care costs because her doctors were not on the new list of providers. Eligible faculty appreciated the flexibility that came with early buy-outs and rehiring of faculty. The inability to rehire civil service employees when faculty could be rehired was a state policy not a University policy. Jake (faculty) found salary calculations for rehires punitive because it was based on 80% of previous salary.

The university might need to rethink allocating opportunities as well as changing the attitudes and expectations of managers and younger employees toward older workers (Paul & Townsend, 1993; Hassell & Perrewe, 1995). We found no evidence that inservice programs on aging issues were provided. An indicator of the value an organization places on investing in older workers is its allocation of training resources to older employees. Investments can be made in people or environmental adaptations to compensate for physiological changes due to aging. Work environments are being re-engineered to account for seasonal or contingent labor pools composed of older workers (Lastowka, 1995; Canter, 1995). Gooderham and Hines (1995) found a gradual increase in the number of older employees receiving training and development opportunities while the bulk of opportunities are offered to younger employees. While older workers' job performance compares favorably with younger workers (Sheppard & Rix, 1977), chronological age rather than functional age is the determinant of training opportunities (Greller & Stroh, 1995). Eyres (1996) cautions that "Age discrimination is prevalent in training cases. Although a lack of training is a legitimate basis for selection for layoffs, when the lack of training is age-related an indirect violation of the ADEA [Age Discrimination in Employment Act] can be found" (p. 196).

Few positions in our information society remain static. Education and job redesign are the means by which the older workers can enter, reenter, and advance at work. Respondents wanted more family friendly policies and training programs to assist with re-entry into the workplace.

Reflections

We began the study with a naive assumption that the university environment might be more supportive and respectful of older employees. This assumption seemed reasonable considering the tenure system and the guarantee

of lifelong employment. We attempted to illustrate the meaning of growing older by those employees who have reached the age of fifty-five or older in a university environment. Aging is experienced differently depending on gender, position, and ethnicity. Our respondents described an environment in which aging is rewarded among the faculty but devalued among the administrative and civil service classifications. Conflict within the university ranged from policies designed to attract older professors to retirement and reduce personnel costs to a university coping with ways to retain expertise developed through experience. In some cases, seniority is rewarded through ease of accessing university services. Our respondents indicated the continuing importance of work as a means of staying engaged and continuing to contribute to the community. However, work as contribution was more often found among the faculty than among civil service staff. Civil service staff equated the necessity to work with lack of funds to retire. Our interviews hint at culturally determined meanings of work and retirement.

Human Resource Development Implications

Older workers exhibit different work patterns at different stages of life-long working. The workplace becomes a dynamic space for older workers. Rather than a unidirectional journey leading to retirement HRD practices for older workers should be situated in the dynamic pattern of periods of active employment, disengagement, and re-entry into the same or a new career.. An HRD perspective for the third stage, the working life beyond the traditional retirement age, will view the older worker as an active agent negotiating various roles within the workspace. The roles, depending on life circumstances, might include the decision to remain in, retire from, or return to periods of part time, full time, or part season work challenging HRD practitioners and scholars to develop training, career development, and organizational development strategies appropriate to a third stage of working life.

Older workers are a differentiated employee group with different workplace issues suggesting an HRD framework that combines functions with employment patterns. Table 1 combines the components of HRD: training and development, career development, and organizational development with the working patterns of remaining, returning, and retiring. The framework is useful for evaluating issues of age during policy development in each intersection of HRD component with work pattern.

Table 1
Age and HRD Policy Development: Issues to Consider

	T&D	CD	OD
REMAINING	Is age discussed as a diversity issue?	Are there opportunities to change jobs within the organization?	Are there implicit barriers to promoting older workers?
RETIRING	Are there learning opportunities to prepare for retirement?	Is there opportunity to prepare for life after this workspace/career/job?	Are there policies to permit flexible employment patterns for gradual disengagement?
RETURNING	Are there training programs to assist with re-entry to the workplace?	Are investments made in skill development for future employment?	Do policies facilitate and or actively recruit older workers to the workplace?

A workplace, which blends training opportunities, flexible employment patterns, and policies supportive of the life needs of an aging workforce, may become a workplace that embraces older workers as capable, productive, and knowledgeable lifelong workers. The quality and sensitivity of a workplace's human resource development program might be measured by the extent older workers receive the support necessary to maintain challenging, responsible, and meaningful work. An aging workforce might influence workplace cultures and values in ways that change our notions of the meaning and necessity of work.

An investigation of the meaning of work in the lives of older workers is fertile ground for future research studies. HRD practitioners might explore strategies that are more effective and delivery systems for providing career guidance to older adults making transitions to part time work, returning from periods of retirement, or contemplating leaving the workforce. Flexible schedules, job sharing, reduced loads and seasonal employment (e.g. teaching summer sessions) may be redefined in the context of a changing and aging workforce. Notions of full-time, part-time and career work usually applied to the 18-65-age workforce may need to be reexamined in light of employees working beyond the eighth decade of life. Building intergenerational work teams would enhance organizational development. The effect on productivity of intergenerational work teams is an area of future research and will require creative ways of blending training opportunities, flexible employment patterns, and policies supportive of the life needs of an aging workforce.

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Access to Work for College Graduates with Disabilities in the Twin Cities Metropolita. Area

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Changes in the organizational behavior and the role of HRD are examined in facilitating access to work for college graduates. The organizations readiness to hire and retain graduates with disabilities is studied. The implementation of accommodations as mandated by the Americans With Disabilities Act is also described.

Keywords: Access to Work for Persons with Disabilities; Organizational Behavior; Training and Disability

Persons with one or more disabilities totaled about 43,000,000 in the United States at the beginning of the 1990's, which represented about 17 percent of the total population (Americans With Disabilities Act, 1990; Pfeiffer, 1993). They face more barriers in accessing a job, or advancing in their career path, than persons without disabilities . In the workplace, persons with disabilities may require reasonable accommodations to perform the essential functions of their jobs. Accommodations, however, are not always provided, resulting in an increasing number of persons with disabilities who are less likely to advance (Bruyère, Brown, & Mank, 1997; McAfee & McNaughton, 1997), or cannot retain their job.

Students with disabilities are attending post-secondary and higher education at increasing rates. According to Gilson (1996), 8.8% of freshmen in 1991 reported having some type of disability; in 1993 4.8% of students attending public 4-year colleges had disabilities, and the rate was 4.4% of those attending independent 4-year colleges. In 1994, 9.2% of all freshmen reported some disability. "Of all graduate and first-professional students in 1993, 4% reported having a disability, with 16% of these students having multiple disabilities" (Gilson, 1996, p. 264). Different studies also report increasing number of college students by specific disability, like deaf or hard of hearing (Petty & Kolvitz, 1996), or through non-traditional means like the internet (Amtmann & Johnson, 1998).

A survey of Americans with disabilities indicates that two-thirds of Americans with disabilities between the ages of 16 and 64 were not working, although 79 percent of them reported that they want to work. (Szymanski, Ryan, Merz, Treviño, & Johnston-Rodríguez, 1996). Labor market participation for people with disabilities appears to be a complex phenomenon. It influences of trends in the labor market as well as the work structure, and the organization behavior and culture.

The policy goal of the Americans With Disabilities Act (ADA) was to reduce those barriers, therefore allowing more persons with disabilities to have access to work. Has this situation changed with the implementation of the ADA, with the advancement in technology, and with the expansion of the economy resulting in more employment opportunities? Have organizations changed their organization structure and culture so as to make work accessible for persons with disabilities? Is there a significant shift in the organizations practices to accommodate persons with disabilities?

Is the situation for college graduates with disabilities any different? Specifically, what are the chances today for a college graduate with disabilities to obtain a permanent job? Has increased access to college education for persons with disabilities resulted in increased opportunities for employment?

Problem Statement and Theoretical Framework

With the increasing number of persons with disabilities graduating from college, there is an expectation about those persons getting jobs in the market at increasing rates. There are several indications, however, that students or persons with disabilities in general still face several disability-related obstacles when seeking employment. To increase access to work for college graduates with disabilities, accommodations need to be made at the workplace. But as essential as accommodations, changes are also required in the organizational behavior (in the form of employment policies), and in the organization structure and culture.

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The problem is thus defined as the lack of organization readiness to incorporate, retain, and promote college graduates with disabilities into the workplace and the potential role human resource development can play.

This problem is crucial from the perspective of protecting persons with disabilities from social and economic discrimination. One of the most important basis of the ADA is that it acknowledges the existence of systematic barriers to a group, rejecting the idea that organizations are neutral work environments ruled by economic and technological forces (Harlan & Robert, 1998). The core definition of Human Resource Development (HRD) as being "a process for developing and unleashing human expertise for the purpose of improving performance" (University of Minnesota, quoted in Swanson, 1998) demands that HRD be engaged.

Access to work draws on three different theoretical frameworks. The first is the values approach, which analyzes the different stages the US society has gone through concerning disability--from the functional limitation, to the medical impairment, to the independent living movement (Wilkinson & Dresden, 1996), and self-determination (Miller, 1997). The second is the understanding of disability as a type of civil rights (Pfeiffer, 1993; Conley, 1995; Johnson, 1999). Accordingly, disability, as defined by the social theory of disability, is an outcome of social attitudes, institutions, and social structures (Harlan & Robert, 1998), and it has followed the path of other civil rights in terms of recognition.

The third approach analyzes access to work from the economics perspective. It has been said that the passing of the ADA, the promotion of access to work, is an intervention on the free interaction of forces in the labor market. Burkhauser, Butler, & Kim (1995) have noted that at the basis for the policy set-for by the ADA there is a recognition of the failure in the employers' side to incorporate and expand the performance of persons with disabilities. There are also those that perceive disability, the ADA and the required accommodations as paternalistic. Weaver (quoted by Conley, 1995) proposed an economic, incentive-based approach, which would translate in deregulation of employment opportunities for persons with disabilities, therefore reinstating the free interaction of forces in the labor market.

Yet, another approach is based on the organizational behavior theories. It looks at access to work from the perspective of the organizational readiness for change and the individual in the organization. This translates into the extent to which organizations are willing to use and develop the human capital of persons with disabilities.

Research Questions

To address issues regarding the readiness of organizations to accommodate college graduates with disabilities, research was conducted at Disability Services at the University of Minnesota. The main purpose was to explore how, and if, organizations have introduced changes at the organizational level to accommodate and work with college graduates with disabilities. The stated assumptions were that, even though nine years have elapsed since the implementation of the ADA, organizations still do not have the necessary information about persons with disabilities, that they do not have information and/or experience implementing accommodations, and they have not changed the organizational behavior and structure necessary to transform the organizational culture so as to incorporate persons with disabilities.

The research then aimed at examining the current conditions of college graduates gaining access to a job for which the research focused in two broad areas--what the organization's level of knowledge is about college graduates with disabilities, and what the organization's practices are with respect to working with college graduates with disabilities. Specifically, the research questions were: a) have organizations introduced changes regarding persons with disabilities after the passage of the ADA?, b) have those changes resulted in a meaningful impact at the organizational behavior level, or are those changes related to a basic compliance with the ADA?, and c) have those organizations experienced a significant shift in their practices to accommodate persons with disabilities?

Although the research focused on college graduates, the primary interest for a higher-education institution, it was inevitable to include all persons with disabilities when gathering and analyzing the data. Graduates are not necessarily recognized as such when entering the job market, and graduates may have not disclosed their disabilities when hired, which leaves reporting data open for all persons with disabilities that do disclose their disabilities.

Research Method

This descriptive research was conducted in the context of the Access to Work Model Demonstration Project (Project #H078C70029) carried out at Disability Services, University of Minnesota. The Model Demonstration Project included interaction with faculty, organizations, and students to examine major issues concerning access to work for

college graduates with disabilities--e.g., experiential learning, barriers, disclosure, information level, and training. The project's goals were to increase knowledge about those issues, and also increase knowledge and comfort level of employers through developmental training. Therefore, the research that is reported here is complementary to those other activities. Other research methods were used in the project as well, including interviews and focus group techniques. Analysis of that information was used to the design and collection of data contained in this paper.

This research used data collected through two surveys that had been created by Disability Services at the University of Minnesota: "Access to Work" (Disability Services. University of Minnesota, 1998a), and "Organization Needs Assessment" (Disability Services. University of Minnesota, 1998b).

Both surveys were created based on the knowledge of the professionals working on the program, as well as their experience working with college students with disabilities. The surveys cover a representative set of items related with disability and access to work. Before being sent to respondents, both surveys were analyzed by consultants working with Disability Services. The surveys were also piloted with different organizations prior to and during the implementation of the project. Responses in these latter cases were studied to provide organizations with technical consultation regarding disability issues, and to reflect upon information gathered through interviews. Successive responses were used to adjust their content. Whenever sent to organizations, they were responded in the context of training sessions or any other technical consultancy provided by Disability Services through this project. Those responses, however, are not included in this research. Only the final versions that were sent to the sample for the purpose of this research are reported here. The surveys state the questions we try to address in this research--what and how have organizations changed after the adoption of the ADA so as to facilitate access to work for college graduates with disabilities.

The first survey (hereinafter, the "Staffing and Training" survey), gathered basic descriptive data regarding the organization's policy development in disability issues (a reliability coefficient .62), training on disability-related topics (a reliability coefficient .89), and accommodation implementation. This survey was sent to a total of 237 Human Resource managers or staff in organizations in the Twin Cities Metropolitan Area (the Twin Cities Metropolitan Area is comprised of Minneapolis and Saint Paul, and cities in the seven-county surrounding area). The mailing list was acquired from their professional association with a one-time permission to use it, so no follow-up could be used. Thus, this survey was the first contact between Disability Services and those organizations. The response rate was 27% (N=64). For-profit, not-for-profit, and public organizations were included in this group. The type of organization was identified by respondents--there was not prior identification.

The second survey (hereinafter, the "Organization Needs Assessment" survey) had a different purpose. The survey asked specifically about whether the organization sought information about ADA after the law was passed. It also measured the experience the organization had with different disabilities students disclosed or that were visible (a reliability coefficient .91). Finally, it measured the experience of the organization implementing accommodations for persons with disabilities (a reliability coefficient .84). This survey was sent to a list of managers, professionals, and other personnel of 394 organizations also located in the Twin Cities Metropolitan Area. The mailing list was acquired from the University of Minnesota's Office for Special Learning Opportunities, which has a close cooperation with Disability Services. This office maintains a mailing list of several organizations in the Twin Cities with which they interact for learning activities. Therefore, most of these organizations had previously collaborated with Disability Services in disability-related issues in this project and others. The response rate was 35% (N=138). As in the first survey, for-profit, nonprofit, and public organizations were included in this survey.

Both surveys were sent at the same time--May 1999. Each copy of the survey had no space for identifying the respondent, but a coded-number was used to process data. The envelope containing the survey included an invitation letter to participate in the research, which also ensured confidentiality of the responses. To facilitate the response, organizations in the mailing lists were given a self-addressed envelope to use to return answered surveys. After 20 days of the initial mailing, non-respondents were sent a follow-up card with another self-addressed envelope to increase response rate.

Research Results

The Staffing and Training Survey

The first area this survey explored about the organization's knowledge on disability-related issues was policy development. Three major types of policies were addressed--the implementation of written

nondiscriminatory policies, the adoption of written guidelines about availability of disability accommodations, and the adoption of procedures for implementing accommodations requests.

Table 1. Organizations and Disability-Related Policy Development (Percentages)

Policy Type	*All Organizations*	*For Profit*	*Nonprofit*	*Public*
Written Nondiscriminatory Policy (N=61)	91.8	91.3	87.5	100.0
Written Guidelines About Availability of Disability Accommodations (N=58)	51.7	46.5	50.0	85.7
Established Procedure for Implementing Accommodations Requests (N=61)	57.4	56.5	37.5	85.7

Table 1 summarizes the information about the organizations that have established policies in those areas. In general, a great majority of the organizations surveyed (91.8%) indicated they have adopted written nondiscriminatory policies in the workplace. That number drops substantially to about half of the organizations about adopting policies regarding availability of accommodations (51.7%) and how to proceed whenever a request for accommodations is made (57.4%). In both cases, public organizations appear to have more implementation of these policies.

Table 2. Organizations and Training of Human Resource Staff, Supervisors, and Employees (Percentages)

Training Type/Group	*Not at all*	*To a small extent*	*To some extent*	*To a great extent*
Training HR Staff on Implementing ADA (N=60)	10.0	11.7	65.0	13.3
Training HR Staff on Interviewing Candidates with Disabilities (N=59)	13.6	25.4	32.2	28.8
Training Supervisors on Implementing ADA (N=59)	28.8	30.5	33.9	6.8
Training Supervisors on Making Reasonable Accommodations for Persons with Disabilities (N=58)	27.6	25.9	34.5	12.1
Training Supervisors on Conducting Performance Appraisals for Employees with Disabilities (N=56)	46.4	25.0	19.6	8.9
Training Employees on Interacting with Co-workers with Disabilities (N=60)	43.3	28.3	20.0	8.3

This survey also examined training on disability issues. For this purpose, questions focused on three groups of people within the organizations--human resource staff, supervisors/managers, and training for employees. The majority of the organizations appeared to have training programs for their human resource staff for either implementing ADA (90.0%) or interviewing candidates with disabilities (86.7%). Conversely, those organizations that did not have any training at all on these issues are around 10% (Table 2).

Less training is reported when it comes to training of supervisors. The number of organizations training supervisors, from a small extent to a great extent, on implementing the ADA represented 71.2%, and 72.4% in the case of training for making reasonable accommodations for persons with disabilities. Conversely, those organizations that did not provide training at all in these matters showed a higher number (28.8% and 27.6%, respectively).

However, it is the supervisors training on conducting performance appraisals for employees with disabilities that seems to be less frequent--only 53.6% of the organizations reported some sort of training in this area, versus 46.4% of organizations that reported not training at all. Similarly, less training is reported about training employees to interact with co-workers with disabilities. About 57% of all organizations responded as having had some type of training for their workers on this issue--and only 8.3% did that type of training to a great extent. But 43.3% of the organizations surveyed responded in the complete negative sense--they have not had this training at all.

Finally, the third major area those organizations were surveyed on was the implementation of accommodations for college graduates/employers with disabilities. The intent here was to gather initial information about the organizations' experience in dealing with employees with disabilities and implementing accommodations. A short list of accommodations was provided to organizations. With this respect, those organizations showed less experience implementing accommodations. By far, making work schedule flexible is the type of accommodation organizations experienced the most (42.6%).

Table 3. Accommodation Implementation in Organizations (Percentages)

Accommodation Type	*%*	*Accommodation Type*	*%*
Special or Modified	39.3	Readers/Interpreters	14.8
Job Restructuring	27.9	Modified Training Materials	4.9
Job Transfer/Reassignments	23.0	Modified Job Examinations	6.6
Flexible Work Schedules	42.6		

The Organization Needs Assessment Survey

This survey had a somehow different purpose, and contained fewer questions that targeted three major areas. The first one was a rather simple and direct topic--if the organization sought information on ADA after this law was passed. In general, the response is high (73.1%), although some variations can be seen within each category of organizations (Table 4).

Table 4. Organization and Information on the Americans With Disabilities Act (Percentages)

Organization Type	*Sought Information after ADA was Passed (%)*
For Profit	53.3
Nonprofit	76.4
Public	87.5
All Organizations	73.1

The second area deals with the organization's or program's experience working with students with disabilities, for which respondents were given the opportunity of responding to selected types of disabilities. It

appears to be that organizations had more experience working with students with learning disabilities. In a 4-point scale, with 1 being "never" and 4 being "have worked with those students many times", they responded as having had experience "once or twice" (choice number 2 in the scale) with this particular type of disability. Table 5 provides a summary of the information about the experience with the disabilities listed in the survey and the respective means.

Table 5. Organization's Working Experience with Students/Employees with Disabilities (Mean)

Disability Type	*Mean*
Learning Disability	2.1
Psychiatric Disability	2.0
Mobility Disability	1.9
Chronic Illness	1.8
Deaf/Hard of Hearing	1.7
Blind/Low Vision	1.6
Head Injury	1.3

The other major issue was the organization or program experience implementing accommodations, for which the respondents were also given a list of 17 different types of accommodations. In this case, means are high for different accommodations listed in Table 6. In a 4-point scale with 1 being the organization "having little information or knowledge about the accommodation", 2 being "unsure how to implement this accommodation", 3 "have had difficulty implementing the accommodation", and 4 being the organization "made the accommodation successfully", the most notorious accommodation implemented is accessible parking (mean 3.7). Other accommodations that relate to physical mobility ranked also high--ramps, accessible doorways, grab bars, and power doors. Nonphysical accommodations like flexibility in schedule and deadlines ranked also high.

Table 6. Organization's Level of Experience Implementing Accommodations (Mean)

Accommodation Type	*Mean*	*Accommodation Type*	*Mean*
Accessible Parking	3.7	Moving Materials to Lower Shelves	2.8
Ramps	3.6	Sign Language Interpreters	2.7
Accessible Doorways	3.6	Program Relocation	2.6
Flexible Work Hours	3.6	TTY/TTD	2.5
Flexible Deadlines	3.2	Staff Readers	2.5
Grab Bars	3.1	Adapters	1.9
Responsibilities Restructuring	3.1	Voice-Activated Computers	1.5
Attitude Monitoring	3.1	Speech Output Computers	1.4
Power Doors	2.8	Others	2.0

Discussion and Conclusions

Two major conclusions can be drawn from these two surveys: knowledge and training about disability issues seem to be concentrated, still, in the realms of human resource staff, and there seems to be a disconnect between the type

of disability with which the organization has had experience, and the accommodations implemented in the workplace.

Data collected suggest organizations are dealing with disability-related issues still at a basic level. Policy development information, as well as data on training corroborate that organizations are restricting the issue of disabilities to some levels within the organization. This may suggest that to the degree of experience these organizations have with persons with disabilities, they are having a compliance approach to disabilities.

On the other hand, data on experience working with students with disabilities show that organizations appear to have had relevant experience with disabilities that are not visible and would require a disclosure on the part of the student/employee--i.e., learning disability, psychiatric disability and to some extent chronic illness. On the other hand, that experience would relate to some extent only to the type of accommodations they implemented--e.g., flexible work schedule and deadlines, and responsibilities restructuring. However, there is a strong emphasis on physical-related accommodations, which may suggest again the organization's culture with respect to disabilities as well as a compliance issue.

These conclusions suggest that although some efforts have been undertaken in those organizations, little changes have been made at the organizational behavior and culture level that could mean s significant shift in practices. On the one hand, changes seem to be not rooted yet in the structure of those organizations, and that the issue of accommodation implementation would require more significant efforts. On the other hand, at the organization culture level, more changes are needed so as to trickle down the awareness about disabilities. Leaving disabilities as an almost exclusive topic of HR staff is an example of an area where the culture of the organization needs a change.

Research Contribution to Knowledge in HRD

This research's contribution to knowledge and practice of HRD can be approached from different perspectives (see Freeburg, 1994). It requires a systemic analysis of the organization. One of the assumptions frequently made is that all workers are equal. A systemic analysis does not only mean that all functions and jobs are properly related in the organization, and that jobs and tasks need to respond to the organization's goals--a systems approach requires a thorough understanding of differences and disabilities. This topic is crucial when aligning human capital with the overall strategy of the organization. As with any other employees, investing and retaining the human capital of employees with disabilities avoid turnover and related costs. Persons with disabilities constitute the most educated minority group, and yet it goes mostly untapped in the labor market.

Organizational behavior and culture, through policies implemented at the organization level, needs to move to a more comprehensive approach. Changes in the organizational culture are needed in order to transform not only attitudes towards disabilities, but to be competent in disability related issues--as with other expressions of diversity in organizations. An example that comes from the data collected is the need to make training materials available for persons with disabilities. From the perspective of a person with disabilities, if the organization is competent with disability issues, that would add his or her chances to increase performance as any other worker. Implementing accommodation also becomes a key subject for increasing performance through changes in the organization's culture and structure. There are several examples regarding accommodation and organizational culture change: through total quality management (Bruyère, Brown, & Mank, 1997); through changes in the workplace environment (Westmorland, Zeytinoglu, Pringle, Denton, & Chouinard, 1998); by dealing with specific accommodations like visual impairment (Scadden, 1997), traumatic brain injury (Hirsh, Duckworth, Hendricks, & Dowler, 1996), or spinal cord injury (Dowler, Batiste, & Whidden, 1998); and through the use of assistive technology (Brown, 1992; Galvin, 1997; Senge, 1997).

Part of the need for change in the organization's culture is the required change in awareness towards disabilities. This research has presented the evidence of training being mostly concentrated in a specific sector of the organization--the HR staff. However, if the organization is to be inclusive and systemic to improve performance, training in disability-related topics needs to be expanded beyond the realms of the HR staff. That might also avoid employees with disabilities to lose their jobs or to work sporadically only, because all supervisors and co-workers--not only HR staff--will work more effectively with employees with disabilities.

This issue is critical for HRD, and efforts towards organizations culture change, and strategic planning should consciously involve persons with disabilities. However, more research is needed in most of the areas in HRD--e.g., team building, leadership, conflict management. Other research may be approached from the need for changes in practices at different levels--e.g., task bundle, performance appraisals. Whatever the area is, it remains clear that the central area for change is the organizations' culture.

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